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WHAT ARE THE FACTORS THAT PREDICT CIGARETTE SMOKING
AMONG AFRICAN-AMERICAN ADULTS?

A Thesis

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Psychology

by

Phyllis Elaine Wilkins

June 1994

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Approved by:


Elizabeth Klonoff, Chair, Psychology

5/23/94
Date


Faith McClure


David Chavez


Hope Landrine

ABSTRACT

The psychosocial and cultural predictors of cigarette smoking were examined among a sample of 175 African-American adults. Participants completed a self-report inventory containing the Beck Depression Inventory, the Perceived Stress Scale, the Spielberger State-Trait Anxiety, the African-American Acculturation Scale, and questions regarding their smoking, demographics, and risk-taking tendencies. Participants were categorized into two smoking groups: non-smokers and regular smokers. A multivariate analysis of variance revealed that the groups differed only in level of acculturation with regular smokers significantly more traditional in their cultural orientation than non-smokers. A stepwise multiple regression revealed that acculturation was the best predictor of amount of smoking. These results suggest that smoking prevention and interventions may not be reaching the traditional African-Americans.

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INTRODUCTION

Although a large literature has focused on the factors that predict smoking behavior (e.g. Castro, Maddahian, Newcomb, & Bentler, 1987; Farrell, Danish, & Howard, 1992; Headen, Bauman, Deane, & Kock, 1991), the majority of that literature concerns predictors of adolescent cigarette smoking. In fact, we know relatively little about the predictors of smoking for adults. For example, do the same predictors persist into adulthood, or are predictors of cigarette smoking different for adults and adolescents? Equally as important, we know little about how different ethnic minority groups differ in factors that contribute to their smoking behavior. For example, data revealing that African-Americans generally have a later onset of smoking behavior when compared to other ethnic groups has not been adequately explained (Headen et al, 1991).

Ongoing data collected by the U.S. Department of Health and Human Services (1991) help demonstrate the later initiation of smoking by African-Americans. In 1955, 47.9% of White males between the ages of 15 and 24 were smokers compared to 39.4% of Black males also in that age range. Thirty-two years later, in 1987, the trends reversed, with 45.5% of Black males between the ages of 47 and 56 smoking compared to 31.4% of White males in this age range. Similarly, among White females between the ages of 15 and 24, approximately 31.2% smoked in 1965 compared to 26.6% of Black females. The trends also reversed for women. Twenty-two years later, in 1987, 29.1% of White females between the ages of 37 and 46 were smoking compared to 35.7% of Black females smoking (U.S. Department of

Health & Human Services, 1991). What are the factors that are involved in this late onset? How do they differ from the factors that are involved when younger people initiate smoking?

General Predictors of Smoking

Peer Influence. Castro et al. (1987) studied participants in the tenth through the twelfth grades who were part of a longitudinal study of adolescent development and growth to determine the antecedents of cigarette smoking. Peer influence proved to be the strongest predictor of cigarette smoking in this sample (Castro et al, 1987). In addition, Landrine, Richardson, Klonoff, and Flay (in press) studied over 4,000 ninth grade students from public schools. The results revealed that smoking among peers was the best predictor of smoking for White adolescents (Landrine et al, in press). Similarly, other researchers have found a relationship between peer influence and subsequent smoking behavior (Headen et al, 1993; Presson, Chassin, Sherman, Olshavsky, Bensenberg and Corty, 1984).

Stress. In addition to peer pressure, Castro et al. (1987) found that stress and family conflict were also predictors of cigarette smoking. Their results suggest that adolescents with disruptive families and stressful life events may be at risk for smoking behavior. Castro et al. (1987) concluded that early intervention at a family systems level might be necessary to alleviate smoking behaviors among adolescents.

Mitic, McGuire, and Neumann (1985) also surveyed students in the 7th through 12th grades on their use of cigarettes and the circumstances they perceived as stressful. The results revealed that nonsmoking boys had lower mean stress scores than smoking

boys while heavy smokers had significantly greater stress scores than all others. In addition, girls who were regular and heavy smokers reported significantly higher stress scores than nonsmokers or occasional smokers (Mitic et al, 1985).

Similarly, Tuakli, Smith, and Heaton (1990) explored smoking behaviors and attitudes among adolescents. Their results indicated that adolescents who smoked cited problems with stress, peer influence, and boredom as factors in their smoking behavior (Tuakli et al, 1990).

Anxiety. Penny and Robinson (1986) examined the relationship between psychological resources and cigarette use among adolescents. They found that adolescents who smoked had higher levels of trait anxiety compared to adolescents who did not smoke. They also found that adolescents with fewer coping resources were more likely to smoke cigarettes (Penny and Robinson, 1986). Smith and Caldwell (1989) studied smoking and nonsmoking 10th graders and their perceived quality of leisure time. The results indicated that a general pattern of cigarette smoking over the previous year was associated with a perception of leisure time as being anxiety provoking (Smith and Caldwell, 1989).

Depression. Breslau, Kilbey, and Andreski (1991) investigated the association between nicotine dependence and major depression. Their results revealed that there was an association between nicotine dependence and major depression in that subjects who were dependent had higher rates of depression (Breslau et al, 1991). Similarly, West, Hajek, and Belcher (1989) studied smokers who had abstained from smoking.

They found that depression was positively correlated with relapse back to smoking in that as depression increased there was an increased likelihood of relapse to smoking (West et al, 1989).

Other Predictors. Farrell et al. (1992) examined the relationship between five adolescent problem behaviors (cigarette use, alcohol use, marijuana use, delinquency, and sexual intercourse) and predictors of these behaviors. They found that all five problem behaviors correlated positively with each other (Farrell et al, 1992). In addition, they found that these behaviors negatively correlated with conventional behavior such as school attendance and grade point average (Farrell et al, 1992). Thus grades, poor school attendance, and decreased expectations for future academic achievement may be related to adolescent smoking.

In conclusion, the previous studies have found that negative affects (e.g. depression, anxiety, and stress) are related to smoking behavior. However, of all the factors that influence cigarette smoking among adolescents, peer influence appears to have emerged as the most powerful predictor. In light of these data, smoking prevention interventions with adolescents have focused on coping skills and ways to resist peer influences to smoke (e.g., Botvin & Eng, 1980; Flay, 1985; Hurd, Johnson, Pechacek, Bust, Jacobs, & Leupker, 1980). However, the majority of the studies on the predictive power of peers in adolescent smoking are based on primarily White samples (Headen et al, 1991). Intervention programs tend to generalize from these results and

aim their intervention at the "average" adolescent, without regard for possible ethnic cultural differences in the predictors of smoking behavior (Presson, Chassin, Sherman, Olshavsky, Bensenberg, & Corty, 1984).

A single set of predictors may not hold true for all ethnic groups because of cultural differences. It therefore follows that a single preventive strategy or intervention program designed for the "average" adolescent may not be very effective for all ethnic groups. These programs may be ineffective for members of different ethnic groups because they may have different beliefs, values, and attitudes which may be contributing to their smoking behavior.

Age Differences

While much research has been conducted on the factors that predict smoking behavior in adolescents, there is limited research on predictors of smoking among adults. Gottlieb and Green (1987) examined adults of various ethnic groups to determine the predictors of adult smoking and other behavioral risk factors. They examined the role that stressful life events, social networks, and socioeconomic status play in the health practices of adults. Stressful life events included events ranging from new employment to death of a significant other. Social network was measured by exploring the extent to which participants had personal and social resources they could count on in time of need and socioeconomic status was measured by education (Gottlieb and Green, 1987). The results revealed that the strongest predictors of smoking were low education, low social network, and stressful life events, respectively (Gottlieb and Green, 1987). In addition, they found ethnic differences in their sample

with Blacks reporting the most stressful life events, the lowest social network score, and the least income. They reported that poorer education may be related to lack of knowledge about preventive health care and to a lack of knowledge about health promotion and treatment services (Gottlieb and Green, 1987).

Feigelman and Gorman (1989) also examined the predictors of smoking for Black and White adults. They found that Blacks were significantly more inclined to smoke than Whites. Thirty-six percent of the Blacks in their sample were regular smokers compared to only thirty percent of Whites. They also found that social class and stress differences accounted for variations in smoking behavior and were significantly linked to regular smoking. In addition, they found that race alone was not particularly important in explaining differences in smoking behavior in adults (Feigelman and Gorman, 1989).

Ethnic Differences in Smoking

Landrine et al. (in press) studied ninth grade students and their smoking behavior. The participants included Whites, Blacks, Latinos, and Asian-American adolescents. The adolescents completed a self-report inventory assessing their amount of smoking and several predictors of smoking (e.g. depression, anger, stress, smoking among peers, etc.). The results revealed that there is more smoking among White youths than among minority youth with Whites smoking more than Blacks, Asians, and Latinos. In addition, Landrine and colleagues found significant ethnic differences in the predictive power of various well-known risk factors. Smoking among peers proved to be the best predictor of smoking for White adolescents (accounting for 23.5% of the

variance), but only accounted for approximately 15% of the variance for Latino adolescents, 9.6% of the variance for Asian youth, and zero variance for Black youth. For Blacks, peer smoking was not a predictor at all. Instead risk-taking tendency (measured by participants' response to "I like to take risks") was found to be the major predictor of cigarette smoking for Black adolescents, accounting for 15.9% of the variance. For Asian-American adolescents, a school-related issue (e.g. school truancy) proved to be the best predictor accounting for 17.3% of the variance in smoking behavior (Landrine et al, in press). For Latino adolescents the best predictor was smoking among peers and accounted for 13.3-17.7% of the variance, depending on their level of acculturation (Landrine et al, in press).

Headen et al. (1991) studied smoking initiation and the predictors of smoking among Black and White adolescents. The results showed that White adolescents initiate smoking earlier than Black adolescents (Headen et al, 1991). In addition, they found that friend behavior was strongly related to smoking initiation among White adolescents but was not related to smoking initiation for Black adolescents (Headen et al, 1991). Therefore, consistent with earlier findings, having friends who smoke appears to be the best indicator of smoking among White adolescents; however, it is not an indicator of smoking for Blacks.

Similarly, Presson et al. (1984) examined predictors of smoking among subgroups of adolescents according to race. They also found ethnic- cultural differences in the antecedents and predictors of smoking. The results showed that having friends who smoke was a strong predictor of smoking for White youth while not a predictor at all

for Black youth. Instead, their findings suggest that other factors such as risk-taking tendencies may be a better predictor of smoking among Black adolescents (Presson et al, 1984).

The previous studies suggest that there are ethnic differences in the predictors of smoking among adolescents. While having peers who smoke appears to be the best predictor of smoking among White adolescents, that is not the case for Blacks. Other studies have similarly reported that peer influence is not a predictor of smoking among Black adolescents (Farrell & Danish, 1993; Newcomb & Bentler, 1986; Sussman et al, 1987; Vega et al, 1993). Instead, risk-taking tendencies alone appears to be the best predictor of smoking among Black adolescents, while accounting for little variance among White adolescents (Landrine et al, 1993; Presson et al, 1984).

Studies of the predictors of smoking among Asian-American youth are relatively rare. Castro et al. (1987) reported that while peer influences, family conflict, and stress were strong predictors of smoking for White youth, they were relatively poor for predicting smoking behavior for Asian-Americans. In addition, Sussman et al. (1987) reported that the predictors of smoking for Asian-American youth were low self-esteem, poor school achievement, familiarity with adults who smoke, problem behaviors at school, and peer smoking, respectively, with peer smoking playing only a small role in their smoking initiation and behavior.

Acculturation

Landrine and Klonoff (1994) define acculturation as " the extent to (and the process through) which ethnic-cultural minorities participate in the cultural traditions,

values, beliefs, assumptions, and practices of the dominant white society (acculturated), or remain immersed in their own cultural traditions, values, practices and beliefs (traditional)". Acculturation scales are considered to be important to understanding the diversity that exists in human behavior, and so have been developed for a variety of different ethnic groups (Landrine and Klonoff, 1994). Researchers have used acculturation scales in order to examine within ethnic group differences on the basis of acculturation.

Landrine et al. (in press) found that acculturation plays an important part in the smoking behavior of Latino youth. Acculturation was measured by asking such questions as "What language do you usually speak at home". Latinos were divided into those that spoke only Spanish in the home, those that spoke both Spanish and English, and those that spoke only English (a rough measure of acculturation). The results showed that although Whites smoked more than the total group of Latinos, when divided by acculturation status, a different pattern of results emerged. Whites smoked more than less acculturated Latinos, but not more than highly acculturated Latinos. Similar differences as a function of acculturation were found in the predictors of smoking. Highly acculturated Latinos were similar to Whites in their predictors of smoking. In other words, peer influence appeared to be the best predictor of smoking behavior among highly acculturated Latinos. In addition, the predictors of smoking behavior for less acculturated Latinos were similar to those of Asians and Blacks in the sample (Landrine et al, in press).

Similarly, Marin, Marin, Otero-Sabogal, Sabogal, and Perez-Stable (1989) also examined the role of acculturation in the attitudes, norms, and expectancies of Latino smokers. The results showed that highly acculturated Latino smokers had attitudes and norms toward smoking that were similar to an equivalent group of White non-Latino smokers (Marin et al, 1989). In addition, highly acculturated Latino smokers' responses to the antecedents and consequences of smoking resembled the responses of White non-Latino smokers (Marin et al, 1989).

Smith, McGraw, Carrillo (1991) studied the factors that predict smoking among Puerto Rican-American high school students. The results revealed that highly acculturated Puerto Rican-American males had higher rates of smoking than did less acculturated males while degree of acculturation was not a factor for females (Smith et al, 1991).

Acculturation scales exist for a variety of different ethnic groups. There are acculturation scales in the literature for Chinese-Americans (Yao, 1979), Japanese-Americans (Masuda, Matsumoto, & Meredith, 1970), Asian-Americans as a whole (Suinn, Rickard-Figueroa, Lew, & Vigil, 1987), Cuban-Americans (Szapocnik & Kurtines, 1980), other Mexican-Americans (Cuellar, Harris, & Jasso, 1980), and Native Americans (Hoffman, Dana, & Bolton, 1985). While such scales have existed for all other ethnic groups, no such scale has existed for African-Americans. Therefore, the role of acculturation in African-American smoking behavior has not been examined before. Although scales measuring African-American racial identity (the extent to

which one identifies with a racial group) have been developed (e.g., Helms, 1990), there is a need to examine the construct of acculturation and its role in smoking behavior among African-Americans.

Landrine and Klonoff (1994) recently developed the African-American Acculturation Scale (AAAS) by modeling the structure and content of other scales for the various ethnic groups. Other scales typically select specific dimensions of the culture to measure and so Landrine and Klonoff (1994) selected eight dimensions of African-American culture to measure. The dimensions are as follows: traditional African-American religious beliefs and practices, traditional African-American family structure and practices, traditional African-American socialization, preparation and consumption of traditional foods, preference for African-American things, inter-racial attitudes, superstitions, and traditional African-American health beliefs and practices. Higher scores (high agreement with the item) indicate a more traditional, cultural orientation while lower scores (low agreement with the item) indicate a more acculturated (less traditional) cultural orientation.

It appears that acculturation plays a significant role in the smoking behavior of other ethnic minority groups (Landrine et al, in press; Smith et al, 1991). Therefore, it is expected that acculturation plays an important role in the smoking behavior of African-American adults. Similar to results obtained for the role of acculturation for Latinos, it is expected that highly acculturated African-Americans will be more likely to smoke than more traditional African-Americans.

Hypotheses

Research and literature on ethnic differences in the predictors of smoking among adolescents is limited. Even more rare is literature on the predictors of smoking for various ethnic minority adults. Therefore, this study attempted to examine the factors that predict smoking among African-Americans adults. The specific purpose of this study was to examine the role that acculturation, stress, depression, anxiety, and risk-taking play in the smoking behavior of African-American adults. Consistent with the research on highly acculturated Latinos (Landrine et al, in press), it was hypothesized that highly acculturated African-American adults will be more likely to smoke. It was also hypothesized that African-Americans who smoke and African-Americans who do not smoke would differ significantly in their levels of acculturation, stress, depression, anxiety, and risk-taking tendencies, with smokers having significantly higher levels than nonsmokers. Last, it was hypothesized that acculturation, stress, anxiety, depression, and risk-taking would emerge as predictors of African-American smoking behavior.

METHOD

Participants

One hundred seventy-five African-American adults participated in this study. The sample consisted of 67 men and 108 women. Participants were between the ages of 17 and 59 years old (mean = 26, σ = 9). Thirty-eight participants reported growing up in a poor family, 135 reported growing up in a middle class family, and two reported being raised in a wealthy family. The average level of education was 13 years (minimum=10, maximum=18).

Materials

In addition to demographic information, subjects were asked to complete a series of questionnaires that included:

The Speilberger State-Trait Anxiety Inventory (STAI) (Speilberger, Gorsuch, and Lushene, 1970). The STAI is a test consisting of 40 items measuring anxiety. Twenty questions pertain to trait anxiety and 20 questions pertain to state anxiety. Participants were asked to select one of four responses, ranging from "not at all" to "very much so", that characterize how they generally feel and how they currently feel. Internal consistency reliability ranges from .86 to .95 for the state items and .89 to .91 for the trait items (Keyser and Sweetland, 1984). Validity was demonstrated by correlating the STAI with the Taylor Manifest Anxiety Scale and the Institute for Personality & Ability Testing (IPAT) Anxiety Scale. When correlated with these scales validity is .80 and .75 respectively (Keyser and Sweetland, 1984). This inventory was used to assess state and trait anxiety.

The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, and Erbaugh, 1961). The BDI is a 21-item questionnaire. Each item contains a set of 4 statements. Participants were asked to mark the statement or statements that best describe how they feel. The split-half reliability coefficients range from .86 to .93 (Beck et al, 1961). Validity coefficients of .65 to .67 were found when BDI scores were correlated with clinical judgements of depression (Beck et al, 1961). This inventory was used to measure depression.

The Perceived Stress Scale (PSS10) (Cohen and Williamson, 1988). The PSS10 is a 10-item scale. Participants were asked how often in the last month had they felt a certain way. For instance, "In the last month, how often have you felt that you were unable to control the important things in your life". Responses range from "never" to "very often" and are on a 0 to 4 scale. Internal reliability is .78 (Cohen and Williamson, 1988). When PSS10 and other stress measures are correlated, construct validity ranges from .32 to .47 (Cohen and Williamson, 1988). The PSS10 was used to measure stress.

The African-American Acculturation Scale (AAAS) (Landrine and Klonoff, 1994). The AAAS is a 74- item questionnaire designed to assess dimensions of African-American culture. Participants were asked to rate their agreement with the items on a 1 to 7 scale. Responses range from "totally disagree" to "strongly agree". The scale yields eight subscales and a total score. The eight subscales have Cronbach's alphas ranging from .71 to .90. In addition to this, the split-half reliability

is .93 (Landrine and Klonoff, 1994). The AAAS has discriminant validity in that it effectively discriminates between African-Americans and non African-Americans. Thus the AAAS was used to measure level of acculturation.

Risk-Taking. A general statement was used to measure risk-taking tendencies. Participants were asked to respond to the statement "I like to take risks". Responses range from "not true at all" to "absolutely true" and are on a scale of 1 to 5.

Procedure

Participants in this study were recruited from a variety of different sources. Forty-eight participants were recruited from a local four-year university, 66 were recruited from local junior colleges, 17 were recruited from a local church, and 44 were recruited from community resources. Questionnaires were given to each participant and they were asked to complete all measures.

RESULTS

Subjects were categorized into three smoking groups based on their self-report of smoking frequency. Those who reported they did not smoke were categorized as Non-Smokers (n=144); those who reported smoking less than a pack of cigarettes per week were categorized as Infrequent Smokers (n=15); and those who reported smoking a pack or more per week were categorized together as Regular Smokers (n=16).

A multivariate analysis of variance (MANOVA) with the above three smoking groups and six dependent variables was conducted. These six variables (and the abbreviations used in all tables) were depression (BECK), state anxiety (STATE), trait anxiety (TRAIT), stress (PSS), total AAAS score, and risk-taking. This MANOVA was significant [Hotelling's $T^2 = .201$, $F(12,306)=2.56$, $p=.003$], and indicated that the three smoking groups differed on the weighted, linear, composite of the dependent variables. Follow-up one-way analyses of variance (ANOVAs, shown in Table 1) were significant and indicated that the smoking groups differed only in their level of acculturation and did not differ on any of the psychosocial variables.

Table 1

Analysis of Variance for All Smoking Groups

	Mean Non- Smokers	Mean Infrequent Smokers	Mean Regular Smokers	Sum of Squares	F ^a	p
AAAS	320.56	302.57	357.18	22503.86	3.43	.035
PSS	18.75	20.31	17.00	74.29	0.70	--
STATE	36.22	42.62	41.07	719.80	2.66	--
TRAIT	39.74	43.00	38.07	174.88	0.65	--
BECK	9.56	11.92	8.57	84.43	0.51	--
RISKS	3.03	3.46	3.64	6.45	2.33	--

^adf=2,159 for all F's above

Post-hoc Scheffe tests at $\alpha = .05$ on the total AAAS score were not significant, indicating that while patterns of scores for groups differed, no individual means were far apart. Thus, these data with three smoking groups revealed no differences between the groups on the six dependent variables. Therefore, a second MANOVA was conducted using only regular smokers versus non-smokers and the same six dependent variables described above. This MANOVA, with the omission of infrequent smokers, was also significant [Hotelling's $T^2 = .170$, $F(6,142) = 4.021$, $p = .001$], and indicated that regular smokers and non-smokers differed on the weighted, linear, composite of the dependent variables. Follow-up one-way analyses of variance (ANOVAs, shown in Table 2) indicated that the two groups differed only in their level of acculturation with regular smokers significantly more traditional in their cultural orientation than non-smokers.

Table 2

Analysis of Variance for Regular Smokers and Non-Smokers

	Mean Non- Smokers	Mean Regular Smokers	Sum of Squares	F ^a	p
AAAS	320.56	357.18	17010.80	5.05	.026
PSS	18.75	17.00	38.76	0.73	--
STATE	36.22	41.07	298.28	2.30	--
TRAIT	39.74	38.07	35.35	0.26	--
BECK	9.56	8.57	12.47	0.16	--
RISKS	3.03	3.64	4.77	3.45	--

^adf=1,147 for all F's above

The extent to which amount of smoking could be predicted from acculturation and from the psychosocial variables was examined next for the smokers only. Smoking groups were contrast-coded as follows: those who smoke less than a pack of cigarettes per week were coded -1; those who smoke less than a pack per day were coded 0, and those who smoke a pack of cigarettes per day were coded 1. With these codes, positive correlations are related to more frequent and negative correlations to less frequent smoking, respectively. A stepwise, multiple regression analysis was conducted using depression, state anxiety, trait anxiety, stress, risk-taking and acculturation scores as the predictors, and contrast-coded smoking groups (amount of smoking) as the outcome variable. These results are shown in Table 3, where the first

column shows the order in which variables were selected and the second shows the multiple R. The remaining columns report the beta, percentage of variance, F value, and significance level.

Table 3

Stepwise Multiple Regression Predicting Amount Smoking
From Acculturation and Psychosocial Variables

Variable Selected	R	Beta	R ² (% variance)	F	p
1. AAAS	.41	.494	.170 (17%)	(1,25) 5.12	.03
2. PSS	.57	-.409	.330 (33%)	(2,24) 5.93	.008

As indicated in Table 3, level of African-American acculturation was the best predictor of amount of smoking, and accounted for 17% of the variance in smoking. The next best predictor was score on the PSS which by itself accounted for 16% of the variance in smoking and was negatively correlated with smoking; no other variables predicted a significant level of additional variance.

These two variables together correlated .575 with amount of smoking (this correlation was significant [$F(2,24) = 5.93$, $p = .008$]), and accounted for 33% of the variance in amount of smoking. Thus, smoking and AAAS scores were positively related indicating that as smoking increases so do scores on the AAAS. In addition,

smoking and stress scores were negatively correlated indicating that as smoking increases there is a decrease in stress scores. The African-American acculturation score was the best predictor of smoking, as hypothesized.

Finally, to examine the role that education played in the smoking behavior of the different groups an ANOVA was conducted. This one-way ANOVA for the three smoking groups with years of education as the dependent variable was not significant [$F(2,165) = .088, p = .92$], and suggests that education was not a factor in smoking behavior for this sample.

DISCUSSION

The data revealed that regular smokers and non-smokers differ only in level of acculturation with regular smoking related to a traditional (less acculturated) cultural orientation. In addition, the results revealed that acculturation is the best predictor of smoking behavior. Clearly, these results are the opposite of the findings from the Landrine et al. (in press) study in which highly acculturated Latino youth were more likely to smoke and smoked more than less acculturated (traditional) Latino youth. In the Landrine et al. (in press) study increased acculturation was positively related to smoking behavior. This simply was not the case for the African-American participants in this study. Instead increased traditionality was positively correlated with smoking behavior. In addition, regular smoking was also predicted by lower levels of stress. These results are the opposite of Gottlieb and Green (1987) as well as Feigelman and Gorman (1989). Also, education was not a factor in the smoking behavior for this sample.

A number of reasons may serve to explain these results. Less acculturated Latinos (as measured by language preference) are less likely to speak English and therefore may not be receiving encouraging messages to smoke from the tobacco industry. However, since language is not a factor for African-Americans, other factors may be involved in their smoking behavior. The fact that psychosocial variables did not predict smoking among African-Americans in this sample may also be indicative of

the notion that other factors may be operating in their decision to smoke. Therefore, smoking may be serving a different function for African-Americans. Regular smoking may be associated with social gatherings or events and consumed in a social sense.

In addition, mainstream smoking prevention and interventions may not be reaching the traditional African-Americans in the community. It is possible that more acculturated African-Americans have access to antismoking messages and therefore have lower rates of smoking behavior. Meanwhile, information concerning the dangers of smoking and smoking prevention may not be available to the more traditional African-Americans. Thus, antismoking programs, interventions, and messages need to become available to those African-Americans of a traditional cultural orientation. This can be achieved by reaching traditional African-Americans in settings frequented by traditional African-Americans (i.e. African-American churches and social organizations). Thomas, Quinn, Billingsley, and Caldwell (1994) reported that the Black church has historically been used by medical professionals and public health agencies as a way to gain access to those Blacks who are difficult to reach through mainstream ways. Traditional Black churches have a long history of meeting the health and human service needs of the Black community according to Thomas et al. (1994). Wiist and Flack (1990) also support the role of the African-American church in addressing the health concerns of African-Americans. In their study on the effectiveness of church interventions on coronary heart disease they found that African-Americans had significantly lower cholesterol levels as a result of screening and interventions by trained volunteers in African-American churches (Wiist and

Flack, 1990). Their study lends support for the notion that traditional African-American churches play a significant role in preventative health. In other words, successful prevention and intervention may depend on reaching traditional African-Americans through mostly African-American means such as churches.

The data also revealed that regular smoking was predicted by lower levels of stress. For African-American smokers the act of smoking may be perceived as stress reducing, therefore, causing them to report less stress. In addition, the stress scale utilized for this sample may not be an appropriate measure of stress for African-Americans. Instead, a scale designed to measure specific stressful life events relevant to African-Americans may be a more accurate measure of stress.

Of the total participants in this study, regular smokers comprised only 9%. Therefore, this study utilized only a very small sample of regular smokers when compared to the relatively large number of African-American regular smokers in the United States. According to the U.S. Department of Commerce (1993), 35% of African-American adult men and 24.4% of African-American adult women were regular smokers in 1991. Therefore, a much larger sample size, capturing an adequate representation of African-American smokers, may reveal other significant results and provide a clearer understanding of other predictors of cigarette smoking for African-Americans.

In addition, education was not a factor in the smoking behavior for this sample. This may be due to the restricted range in level of education for this sample. However, these results are consistent with the findings from Klonoff, Landrine, &

Wilkins (1994) in which the differences between smokers and non-smokers were not an artifact of education and social class, suggesting that level of education is not related to smoking status. Both studies utilized a small sample size which may account for these results.

The results from this study open many avenues for future research and development. Future research might focus on specific population groups such as young adults, at-risk, older adults, etc. to determine what role, if any, acculturation and psychosocial variables play in the smoking behavior of these groups. It may be that cultural orientation and psychosocial variables such as stress, depression, and anxiety play a significant role in smoking behavior for very highly specialized homogeneous groups. Future research might also want to include larger samples of participants than the sample size used in this study.

APPENDIX A: African-American Acculturation Scale

AFRICAN-AMERICAN ACCULTURATION SCALE

Instructions: Please tell us how much you personally agree or disagree with the beliefs and attitudes listed. There is no right or wrong answer. We want your honest opinion.

I Totally Disagree		Sort of Agree			I Strongly Agree	
1	2	3	4	5	6	7

1. One or more of my relatives knows how to do hair. _____
2. When I was young, my parent(s) sent me to stay with a relative (aunt, uncle, grandmother) for a few days or weeks, and then I went back home again. _____
3. When I was young, I shared a bed at night with my sister, brother, or some other relative. _____
4. When I was young, my cousin, aunt, grandmother, or other relative lived with me and my family for a while. _____
5. When I was young, my mother or grandmother was the "real" head of the family. _____
6. When I was young, I took a bath with my sister, brother, or some other relative. _____
7. Old people are wise. _____
8. I often lend money or give other types of support to members of my family. _____
9. It's better to try to move your whole family ahead in this world than it is to be out for only yourself. _____
10. A child should not be allowed to call a grown woman by her first name, "Alice". The child should be taught to call her "Miss Alice". _____

11. It's best for infants to sleep with their mothers. _____
12. Some members of my family play the numbers. _____
13. I know how to play bid whist. _____
14. Most of my friends are Black. _____
15. I feel more comfortable around Blacks than
around whites. _____
16. I listen to Black radio stations. _____
17. I try to watch all the Black shows on TV. _____
18. I read (or used to read) Essence magazine. _____
19. Most of the music I listen to is by Black artists. _____
20. I like Black music more than white music. _____
21. The person I admire the most is Black. _____
22. When I pass a Black person (a stranger) on the street,
I always say hello or nod at them. _____
23. I read (or used to read) Jet magazine. _____
24. I usually add salt to my food to make it taste better. _____
25. I know how long you're supposed to cook
collard greens. _____
26. I save grease from cooking to use it again later. _____
27. I know how to cook chit'lins. _____
28. I eat grits once in a while. _____
29. I eat a lot of fried food. _____
30. Sometimes I eat collard greens. _____
31. Sometimes, I cook ham hocks. _____

32. People say I eat too much salt. _____
33. I eat chit'lins once in a while. _____
34. Most tests (like the SATs and tests to get a job) are set-up to make
sure that Blacks don't get high scores on them. _____
35. Deep in their hearts, most white people are racists. _____
36. IQ tests were set-up purposefully to discriminate
against Black people. _____
37. Whites don't understand Blacks. _____
38. Some members of my family hate or distrust
white people. _____
39. I don't trust most white people. _____
40. Most whites are afraid of Blacks. _____
41. There are many types of blood, such as "high",
"low", "thin" and "bad" blood. _____
42. I was taught that you shouldn't take a bath and
then go outside. _____
43. Illnesses can be classified as natural types,
and unnatural types. _____
44. I believe that some people know how to use
voodoo. _____
45. Some people in my family use epsom salts. _____
46. I know what "falling out" means. _____
47. Some old Black women/ladies know how
to cure diseases. _____
48. Some older Black women know a lot about
pregnancy and childbirth. _____
49. Prayer can cure disease. _____

50. I have seen people "fall out". _____
51. If doctors can't cure you, you should try going to
a root doctor or to your minister. _____
52. I have "fallen out". _____
53. I believe in heaven and hell. _____
54. I like gospel music. _____
55. The church is the heart of the Black community. _____
56. I am currently a member of a Black church. _____
57. I have seen people "get the spirit" or
speak in tongues. _____
58. I believe in the Holy Ghost. _____
59. I went to a mostly Black elementary school. _____
60. When I was young, I was a member of a
Black church. _____
61. I grew up in a mostly Black neighborhood. _____
62. The biggest insult is an insult to your mother. _____
63. I went to (or go to) a mostly Black high school. _____
64. Dancing was an important part of my childhood. _____
65. I used to sing in the church choir. _____
66. When I was a child, I used to play tonk. _____
67. When I was young, I used to jump double-dutch. _____
68. I currently live in a mostly Black neighborhood. _____
69. I used to like to watch Soul Train. _____
70. What goes around, comes around. _____

71. There's some truth to many old superstitions.

72. I avoid splitting a pole.

73. When the palm of your hand itches, you'll receive
some money.

74. I eat black-eyed peas on New Year's Eve.

APPENDIX B: Perceived Stress Scale

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate.

For each question, choose your answer from the following. Write the number that best describes how often these things have happened to you on the line next to each question. For example, if the thing has never happened to you in the past month, you would write a "0" on the line. If it happens all the time, you would write a "4" on the line.

- 0. never
- 1. almost never
- 2. sometimes
- 3. fairly often
- 4. very often

1. In the last month, how often have you been upset because of something that happened unexpectedly? _____
2. In the last month, how often have you felt that you were unable to control the important things in your life? _____
3. In the last month, how often have you felt nervous and "stressed"? _____
4. In the last month, how often have you felt confident about your ability to handle your personal problems? _____
5. In the last month, how often have you felt that things were going your way? _____
6. In the last month, how often have you found that you could not cope with all the things that you had to do? _____
7. In the last month, how often have you been able to control irritations in your life? _____
8. In the last month, how often have you felt that you were on top of things? _____

9. In the last month, how often have you been angered because of things that happened that were outside of your control? _____

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? _____

APPENDIX C: State Anxiety Scale

STATE ANXIETY SCALE

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then write in the number next to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. not at all
2. somewhat
3. moderately so
4. very much so

- | | |
|---|-------|
| 1. I feel calm. | _____ |
| 2. I feel secure. | _____ |
| 3. I am tense. | _____ |
| 4. I am regretful. | _____ |
| 5. I feel at ease. | _____ |
| 6. I feel upset. | _____ |
| 7. I am presently worrying over possible misfortunes. | _____ |
| 8. I feel rested. | _____ |
| 9. I feel anxious. | _____ |
| 10. I feel comfortable. | _____ |
| 11. I feel self-confident. | _____ |
| 12. I feel nervous. | _____ |
| 13. I am jittery. | _____ |
| 14. I feel "high strung". | _____ |

15. I am relaxed.

16. I feel content.

17. I am worried.

18. I feel over-excited and "rattled".

19. I feel joyful.

20. I feel pleasant.

APPENDIX D: Trait Anxiety Scale

TRAIT ANXIETY SCALE

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then write in the number next to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

1. not at all
2. somewhat
3. moderately so
4. very much so

21. I feel pleasant. _____
22. I tire quickly. _____
23. I feel like crying. _____
24. I wish I could be as happy as others seem to be. _____
25. I am losing out on things because I can't make up my mind soon enough. _____
26. I feel rested. _____
27. I am "calm, cool, and collected". _____
28. I feel that difficulties are piling up so that I cannot overcome them. _____
29. I worry too much over something that really doesn't matter. _____
30. I am happy. _____
31. I am inclined to take things hard. _____
32. I lack self-confidence. _____
33. I feel secure. _____
34. I try to avoid facing a crisis or difficulty. _____

35. I feel blue. _____
36. I am content. _____
37. Some unimportant thought runs through my mind and bothers me. _____
38. I take disappointments so keenly that I can't put them out of my mind. _____
39. I am a steady person. _____
40. I get in a state of tension or turmoil as I think over my
recent concerns and interests. _____

APPENDIX E: Beck Depression Scale

BECK DEPRESSION SCALE

Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad.
 1 I feel sad.
 2 I am sad all the time and I can't snap out of it.
 3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
 1 I feel discouraged about the future.
 2 I feel I have nothing to look forward to.
 3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
 1 I feel I have failed more than the average person.
 2 As I look back on my life, all I can see is a lot of failures.
 3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
 1 I don't enjoy things the way I used to.
 2 I don't get real satisfaction out of anything anymore.
 3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
 1 I feel guilty a good part of the time.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
 1 I am disappointed in myself.
 2 I am disgusted with myself.
 3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.
 1 I am critical of myself for my weaknesses or mistakes.
 2 I blame myself all the time for my faults.
 3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
10. 0 I don't cry anymore than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated now than I ever am.
 1 I get annoyed or irritated more easily than I used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people.
 3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decisions than before.
 3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
15. 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.

16.
 - 0 I can sleep as well as usual.
 - 1 I don't sleep as well as I used to.
 - 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 - 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17.
 - 0 I don't get more tired than usual.
 - 1 I get tired more easily than I used to.
 - 2 I get tired from doing almost anything.
 - 3 I am too tired to do anything.
18.
 - 0 My appetite is no worse than usual.
 - 1 My appetite is not as good as it used to be.
 - 2 My appetite is much worse now.
 - 3 I have no appetite at all anymore.
19.
 - 0 I haven't lost much weight, if any, lately.
 - 1 I have lost more than 5 pounds.
 - 2 I have lost more than 10 pounds.
 - 3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less.

Yes _____ No _____

20.
 - 0 I am no more worried about my health than usual.
 - 1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
 - 2 I am very worried about physical problems and it's hard to think of much else.
 - 3 I am so worried about my physical problems, that I cannot think about anything else.
21.
 - 0 I have not noticed any recent change in my interest in sex.
 - 1 I am less interested in sex than I used to be.
 - 2 I am much less interested in sex now.
 - 3 I have lost interest in sex completely.

APPENDIX F: Demographics

The following questions ask you to tell us a little about yourself. Please put an "X" or a check mark next to the word or words that best describe you or fill in the blanks. Please do not put your name or any other identifying information anywhere on these pages.

1. I am: _____ Male _____ Female
2. I am _____ years old.
3. I am
 - _____ a. White
 - _____ b. Black
 - _____ c. Latino
 - _____ d. Asian
 - _____ e. Other (please describe: _____)
4. I grew up in a:
 - _____ a. poor family (welfare/poverty)
 - _____ b. middle class family
 - _____ c. rich/wealthy family
5. The furthest I got in school was the _____ grade.
6. What kind of grades did you usually get in school?
 - _____ a. mostly F's
 - _____ b. mostly D's
 - _____ c. mostly C's
 - _____ d. mostly B's
 - _____ e. mostly A's
7. I am
 - _____ a. single/not married
 - _____ b. married
 - _____ c. divorced, widowed, separated
8. I have _____ children.
9. Do you smoke cigarettes? _____ Yes _____ No
_____ Used to smoke but quit

10. If you smoke cigarettes now, how much do you smoke:

- _____ a. less than 1 pack a week
- _____ b. less than 1 pack a day
- _____ c. about 1 pack a day
- _____ d. more than 1 pack a day

11. Do you chew tobacco? _____ Yes _____ No _____ Used to chew but quit

12. If you chew tobacco now, how often do you chew?

- _____ a. less than once a month
- _____ b. about once a week
- _____ c. about once a day
- _____ d. more than once a day

13. How many of your closest friends smoke?

- _____ a. none of them smoke
- _____ b. only a few smoke
- _____ c. about half smoke
- _____ d. almost all or all of them smoke

14. How many of your closest friends chew tobacco?

- _____ a. none of them chew tobacco
- _____ b. only a few chew tobacco
- _____ c. about half chew tobacco
- _____ d. almost all or all of them chew tobacco

15. How many brothers and sisters do you have? _____

16. How many of your brothers and sisters smoke? _____

17. Does/did your mother smoke cigarettes?

- _____ a. my mother currently smokes
- _____ b. my mother used to smoke but quit
- _____ c. my mother never smoked
- _____ d. my mother is not alive, but when she was, she smoked
- _____ e. my mother is not alive, but when she was, she did not smoke

18. Does/did your father smoke cigarettes?

- _____ a. my father currently smokes
_____ b. my father used to smoke but quit
_____ c. my father never smoked
_____ d. my father is not alive, but when he was, he smoked
_____ e. my father is not alive, but when he was, he did not smoke

19. Have you ever tried a cigarette? _____ Yes _____ No

20. How old were you when you first tried a cigarette? _____ years old

21. How old were you when you became a regular smoker? _____ years old
Put a mark here if you never became a regular smoker (that is, if you've always thought of yourself as a non-smoker) _____

22. If you used to smoke and quit, how old were you when you quit? (If you've never smoke cigarettes, leave this blank.) I was _____ years old

23. Have you ever tried chewing tobacco? _____ Yes _____ No

24. How old were you when you first tried chewing tobacco? _____ years old

25. How old were you when you became a regular user of chewing tobacco? _____ years old
Put a mark here if you never became a regular user of chewing tobacco _____

26. If you used to chew tobacco and quit, how old were you when you quit? (If you never used chewing tobacco, leave this blank.) I was _____ years old.

For the following questions, please circle the number that best represents how much the following statements are true or not true about you.

- | | Not True At All | | Sort of True | | Very True |
|--|--------------------|---|--------------|---|-----------|
| | ↓ | | ↓ | | ↓ |
| 27. I like to take risks | 1 | 2 | 3 | 4 | 5 |
| 28. I like to do things people say I shouldn't do: | 1 | 2 | 3 | 4 | 5 |
| 29. Do you live in a smoke free environment? | _____ Yes _____ No | | | | |

REFERENCES

- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Arch. General Psychiatry, 4, 53-63.
- Botvin, G., & Eng, A. (1980). A comprehensive school- based smoking prevention program. Journal of School Health, 11, 209-213.
- Breslau, N., Kilbey, M.M., Andreski, P. (1991). Nicotine dependence, major depression, and anxiety in young adults. Archives of General Psychiatry, 48(12), 1069-1074.
- Castro, F.G., Maddahian, E., Newcomb, M.D., & Bentler, P.M. (1987). A multivariate model of the determinants of cigarette smoking among adolescents. Journal of Health and Social Behavior, 28, 273-289.
- Cohen, S. & Williamson, G.M. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), The social psychology of health (pp. 31-67). Newbury Park, CA: Sage Publications.
- Cuellar, I., Harris, I.C., & Jasso, R. (1980). An acculturation scale for Mexican-American normal and clinical populations. Hispanic Journal of Behavioral Science, 2, 199-217.
- Farrell, A.D., & Danish, S.J. (1993). Peer drug associations and emotional restraint: Causes or consequences of adolescents' drug use? Journal of Consulting and Clinical Psychology, 61 (2), 327-334.
- Farrell, A.D., Danish, S.J., & Howard, C.W. (1992). Relationship between drug use and other problem behaviors in urban adolescents. Journal of Consulting and Clinical Psychology, 60(5), 705-712.
- Feigelman, W., & Gorman, B. (1989). Toward explaining the higher incidence of cigarette smoking among Black Americans. Journal of Psychoactive Drugs, 21(3), 299-305.
- Flay, B.R. (1985). Psychosocial approaches to smoking prevention: A review of findings. Health Psychology, 4, 449-488.
- Gottlieb, N.H., & Green, L.W. (1987). Ethnicity and lifestyle health risk: Some possible mechanisms. American Journal of Health Promotion, 2(1), 3745.

- Headen, S.W., Bauman, K.E., Deane, G.D., & Koch, G.G. (1991). Are the correlates of cigarette smoking initiation different for Black and White adolescents? American Journal of Public Health, 81, 854-858.
- Hoffman, T., Dana, R.H., & Bolton, B. (1985). Measured acculturation and MMPI-168 performance of Native American adults. Journal of Cross-Cultural Psychology, 16, 243-256.
- Hurd, P.D., Johnson, C.A., Pechacek, T., Bust, L.P., Jacobs, D.R., & Leupker, R.V. (1980). Prevention of cigarette smoking in 7th grade students. Journal of Behavioral Medicine, 3, 15-28.
- Keyser, D.J., & Sweetland, R.C. (Eds.) (1984). Test critiques: Volume I. Kansas City, MO: Westport Publishing.
- Klonoff, E.A., Landrine, H., & Wilkins, P.E. (1994). African-American acculturation and cigarette smoking: Preliminary findings from two studies. Unpublished manuscript.
- Landrine, H. & Klonoff, E.A. (1994). The African-American Acculturation Scale: Development, reliability, and validity. Journal of Black Psychology, 20(2), 104-127.
- Landrine, H., Richardson, J.L., Klonoff, E.A., & Flay, B. (in press). Cultural diversity in the predictors of adolescent cigarette smoking: The relative influence of peers. Journal of Behavioral Medicine.
- Marin, G., Marin, B.V., Otero-Sabogal, R., Sabogal, F., and Perez-Stable, E.J. (1989). The role of acculturation in the attitudes, norms, and expectancies of Hispanic smokers. Journal of Cross-Cultural Psychology, 20(4), 399-415.
- Masuda, M., Matsumoto, G.H., & Meredith, G.M. (1970). Ethnic identity in three generations of Japanese Americans. Journal of Social Psychology, 81, 199-207.
- Mitic, W., McGuire, D., and Neumann, B. (1985). Perceived stress and adolescents' cigarette use. Psychological Reports, 57(3, Pt. 2), 1043-1048.
- Newcomb, M.D., & Bentler, P.M. (1986). Substance use and ethnicity: Differential impact of peer and adult models. Journal of Psychology, 120(1), 83-95.

- Penny, G.N., & Robinson, J.O. (1986). Psychological resources and cigarette smoking in adolescents. British Journal of Psychology, 77(3), 351-357.
- Presson, C.C., Chassin, L., Sherman, S.J., Olshavsky, R., Bensenberg, M., & Corty, E. (1984). Predictors of adolescents' intentions to smoke: Age, sex, race and regional differences. International Journal of the Addictions, 19(5), 503-519.
- Smith, E.A., & Caldwell, L.L. (1989). The perceived quality of leisure experiences among smoking and nonsmoking adolescents. Journal of Early Adolescence, 9(1-2), 153-162.
- Smith, K., McGraw, S.A., & Carrillo, J.E. (1991). Factors affecting cigarette smoking and intention to smoke among Puerto Rican-American high school students. Hispanic Journal of Behavioral Sciences, 13(4), 401-411.
- Spielberger, C.D., Gorsuch, R.L. & Lushene, R. (1970). State-Trait Anxiety Inventory Manual. Palo Alto: Consulting Psychologist Press.
- Suinn, R.M., Rickard-Figueroa, K., Lew, S., & Vigil, S. (1987). The Suinn-Lew Asian Self-identity Acculturation scale. Educational and Psychological Measurement, 47, 401-407.
- Sussman, S., Dent, C.W., Flay, B.R., Hansen, W.B., & Johnson, C.A. (1987). Psychosocial predictors of cigarette smoking onset by white, Black, Hispanic, and Asian adolescents in Southern California. Morbidity and Mortality Weekly Reports (Suppl), 36, 11S-16S.
- Szapocnik, J., & Kurtines, W. (1980). Acculturation, biculturalism and adjustment among Cuban Americans. In A.M. Padilla (Ed.), Acculturation: Theory, models, and some new findings (pp. 139-159). Boulder, CO: Westview.
- Thomas, S.B., Quinn, S.C., Billingsley, A., & Caldwell, C. (1994). The characteristics of northern black churches with community health outreach programs. American Journal of Public Health, 84(4), 575-579.
- Tuakli, N., Smith, M.A., and Heaton, C. (1990). Smoking in adolescence: Methods for health education and smoking cessation. Journal of Family Practice, 31(4), 369-374.
- U.S. Department of Commerce. (1993). Statistical abstract of the United States: The national data book. Economics and Statistics Administration.

- U.S. Department of Health and Human Services. (1991). Strategies to control tobacco use in the United States: A blueprint for public health action in the 1990's. (NIH Publication No. 92-3316). National Cancer Institute.
- Vega, W.A., Zimmerman, R.S., Warheit, G.J., Apospori, E., & Gil, A.G. (1993). Risk factors for early adolescent drug use in four ethnic and racial groups. American Journal of Public Health, 83, 185-189.
- West, R.J., Hajek, P., & Belcher, M. (1989). Severity of withdrawal symptoms as a predictor of outcome of an attempt to quit smoking. Psychological Medicine, 19(4), 981-985.
- Wiist, W.H. & Flack, J.M. (1990). A church-based cholesterol education program. Public Health Reports, 105(4), 381-387.
- Yao, E.L. (1979). The assimilation of contemporary Chinese immigrants. Journal of Psychology, 101, 107-113.